DOCUMENT RESUME

ED 355 183 SP 034 207

AUTHOR Gardner, William E.
TITLE Schooling in the Information Age: Old Academic Goals in New Societal Contexts.
PUB DATE 92
NOTE 10p.
PUB TYPE Viewpoints (Opinion/Position Papers, Essays, etc.) (120)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Academic Ability; *Access to Education; Critical Thinking; *Educational Environment; Educational Principles; Elementary Secondary Education; Equal Education; *Global Approach; *Information Technology; *Role of Education; *Thinking Skills

ABSTRACT

Information has become society's chief resource; and in the emerging information age, those who have access to it become more powerful and successful than those who do not. The information age, characterized by the rise of a transnational economic organization and the enhanced importance of information, raises important issues, within the context of schooling, about content, access, and control. The information age places a high premium on the ability to manipulate the symbols needed to master modern technologies and the ability to identify and solve problems. Consequently, in the context of schooling, it becomes necessary to emphasize the teaching of critical thinking skills. Additionally, the information age places a premium on the ability to operate from a global perspective. With regard to education, this viewpoint calls for permeating instruction in all subject areas with the global perspective. Traditionally the world's school systems have been meritocracies; access to the most prized educational experiences was reserved for the deserving elite. Teacher educators have a crucial role to play in widening access and in ensuring that students are adequately prepared to prosper in the information age. (IAH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

W Gardner

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ED355183

SCHOOLING IN THE INFORMATION AGE: OLD ACADEMIC GOALS IN NEW SOCIETAL CONTEXTS

William E. Gardner

University of Minnesota

USA

Everybody gets so much information all day long that they lose their common sense.

Gertrude Stein

(There is a paradox) ... which exists between the egalitarian ideology of school and the fact that the ... post-industrial society remains a meritocracy.

Jacques Voneche`

Both scholarly and popular publications in the United States have always contained critical comments about schools and education, but lately what is usually a trickle has become a raging torrent. Each professional journal and edition of the daily paper or weekly news magazine contains stories about the "great crisis" in American education and the perceived gap that exists between what children and adolescents know and what adults think they should know to become useful and productive citizens in the 21st century. This great concern over what is thought to be a "quality" education has ushered in one of the most intense and long-lasting reform movements in the history of our educational system (National Commission on Excellence in Education, 1983; Cremin, 1989).

Colleagues in other parts of the world assure me that my country is not the only one in which concern over schools and the fate of young people are major issues. In Great Britain and France, in the nations of the former Soviet Union, in Australia, Japan, and Thailand, schools also appear to be under great pressure to change to meet the needs of a challenging new age (See, for example, OECD, 1985).

Much of the criticism leveled at the world's schools is misdirected and misplaced and, thus, misses the point. A large quantity of time has been squandered in discussing who is to blame for

SP034207

BEST COPY AVAILABLE

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

what is seen as a bad current situation, and much of this discussion has been both confusing and hurtful to teachers and administrators and to the cause of improvement. The major critics of schools appear to operate on the "devil theory" of causation, which puts the blame for whatever is wrong on bad people --- teachers, administrators, and teacher educators who do the wrong things at the wrong times in the wrong ways. National critics claim that young people do not learn as much as did pupils years ago nor as much as young people do in other countries and that the various nations will lose their ability to compete economically if students do not learn more; the reason for this dire state of affairs is that evil seems to lurk in the hearts of those who run schools.

Such criticism is not useful because it's about the wrong things. People who run schools are not devils and it makes no sense to keep saying they are. Claims about how much people learned long ago and far away make no sense either; most of the comparisons are based on studies that are badly flawed and, in any case, the wrong things are usually measured when these types of comparisons are drawn.

It would be easy to characterize the critics as foolish or misguided, but it is a mistake to ignore their assessment of the world's schools as less than adequate for the future. I think that school critics sense that something is wrong, that schools are not functioning to produce the kinds of citizens needed in the difficult decades ahead; but they have identified the wrong things. I believe that the basic problems faced by schools worldwide are not those most often mentioned but are instead those that flow from two extremely important factors: (1) the world has steadily become smaller as we have moved into the "information age"; and (2) the economies of the world have undergone recent and rapid change. These factors have moved so powerfully upon us that they demand unprecedented adaptation and change from schools, change that has not as yet been attempted on a large scale.

For many years, the world has been "shrinking" in the sense that it has become easier to travel and to communicate. But during the last two decades the pace of change has quickened. Back in the 1970's computers and telecommunications were fused, a development that enabled the world's peoples to share information in virtually no time at all and to move resources in the form of information and money around the globe with little regard for constraints of time or

space (Cleveland,1985). This factor has enabled massive changes in the ways the world's economies are organized. As a number of social scientists have noted, the world has entered a "post-industrial" world in which a true "global" economy has emerged (Bell,1972). This new condition is one in which "every factor of production --- money, technology, factories, and equipment --- moves effortlessly across borders" (Reich,1992, p.8). So powerful has been this development that the old ideas of a national economy and national competitiveness have been rendered meaningless, and it simply makes no sense for nations to be interested in maintaining trade barriers to protect their industries. Dubbed "transnational", the new form of economic organization is neither national nor international in scope --- it is clearly beyond the demarcations that have traditionally marked political boundaries and involves relationships that transcend those between and among nations. "The transnational economy has now become dominant, controlling in large measure the domestic economies of the national states" (Drucker,1989, p.115). This economic phenomenon has been powered in large part by tremendous improvements in transportation systems that make it feasible for high volume, standardized production to be shifted rapidly around the world to areas where wages are low, and by the ability of all the world's people to share information instantaneously.

These factors force a number of significant changes on us. Witness the ways we must now view natural resources. Metals or liquids in the ground, the products of field and forest and others supplied by a bountiful nature were generally thought to be the key resources for national development. While they are still considered important, the transnational economy depends on information as the most significant resource, and the "information society" has become central to our world view. Witness also how the information age forces a new view of the geopolitical world, one Harlan Cleveland calls the "passing of remoteness" (Cleveland,1985, pp.105 - 123). It used to be that the location of the world's natural resources was of central importance. The world was dominated by the notion of location, the "idea that location is a form of power, that the political importance of communities is due to their geography" (Cleveland,1985, p.107). The success of some economies located in relatively small nations without a conventional resource base (e.g., Singapore) or located away from the main trade routes (e.g., South Korea) provide graphic illustrations of this point. Communication satellites and computers have gradually erased distance, "eroding the idea that some places are world centers because they are near other places, while other areas are bound to be peripheral because they

are remote from the 'center of things'" (Cleveland,1985, p. 107). The development of the transnational economy has brought drastic changes in the world's social and economic systems, great upheavals in employment patterns throughout the world, and enormous shifts in the ways that goods are manufactured and marketed.

The rise of a new economic organization and the heightened importance of information raise important issues of content, access, and control, issues that have not undergone serious examination in these new contexts. What knowledge is of most worth for young people to possess? Who should have access to it? What should the schools teach about how to acquire and process information?

As to content, the brave new age into which we have moved places a high premium on the development of two special abilities. The first is the ability to manipulate the symbols needed to master modern technologies. This ability involves much of what is currently taught world-wide, including the skills of basic literacy and calculation, but it should be obvious to any and all that the "fact-based" curriculum assessed by national examinations currently so popular throughout the world will not suffice. Far more important than acquiring bodies of factual knowledge with their dismally short useful life span is the ability to identify problems and to solve them. This involves the set of skills that enables people to process information, to make knowledge from it, to select and analyze, and, in short, to think for themselves (Reich,1992, pp. 228-234).

To achieve this goal means that we must place great emphasis upon teaching the skills of critical thought. Teachers have long been seeking ways to have their pupils learn to think critically, but the goal now assumes heightened status for the simple reason that critical thought is the clearest and most relevant source of power in an information age. The development of critical thought must be a key goal in each of the subject fields. In a redesigned educational system, the emphasis must be upon those aspects of disciplines that allow creative interpretation and generalization, rather than on the low level facts produced in such abundance by each subject area.

The second key ability is to see the biggest of all possible pictures. We live in a fluid, non-rigid

world, and our need to focus on the "nation" as the central theme in the school curriculum has literally been swept away by the tide of events. Developing the broad view, the global perspective, means permeating the teaching of all subjects with a new viewpoint. It means using examples from the world's currencies to teach arithmetic functions; it means emphasizing the "cross-cutting" global issues (e.g., ecology, food production, hunger, overpopulation) when teaching biology and social studies; and it means doing thought problems in mathematics related to situations elsewhere --- in Russia, Israel, or Kenya, or whichever places are not well known to one's pupils. It means consciously structuring cross-cultural contacts and experiences for all students. Always, a global perspective adopts and encourages wider as opposed to more narrow world views (Boulding,1988; Becker,1979; Hanvey,1976; and Tye,1990; provide comprehensive viewpoints on global education programs and practices).

As to the access question, there is a strong case in favor of the belief that education should be as inclusive as possible. But the world's school systems continue to withhold educational opportunity from large numbers of pupils; at a time when the need is clear for education to be as inclusive as possible, we continue to exclude. All of the world's educational systems have had to come to grips with the issue of who will have access to the knowledge purveyed by the system and on what basis citizens will be allowed to participate. While all national systems are described by their proponents as "universal" and all require attendance to some prescribed minimum, we all know that distinctions are made early and often on the basis of alleged academic aptitude and achievement, and also on more subtle factors such as social and economic status. Briefly put, those children identified as academically superior are provided with an "elite" education, for they are expected to occupy future positions of leadership. The others, who, presumably, are academically slower, are consigned to less significant educational activities.

Education, then, is rationed; the knowledge most highly prized is "saved" for the few and kept from the many. The rationing system is justified on the grounds of scarcity --- our society has limited resources, goes the argument; in order to improve our lot, we must select the most able pupils and provide them an education consistent with their intellectual standing. The system created out of such thinking is, of course, a "meritocratic" one --- meaning that those with superior achievement have been correctly identified and will be properly rewarded. Under such

a system the schools are relied on to determine which pupils have outstanding abilities and, hence, can be safely exposed to the key knowledge.

The issues surrounding meritocracy emerged only in relatively recent times. Certainly, a century or two ago there were few if any concerns about how schooling related to the management of society because so few people had access to the schooling process. The rise of industrial societies with their heavy demands for more and better administration and technological skills had powerful effects on schools. In the minds of some observers, educational meritocracies became intrinsic to the fabric of industrial societies (Voneche,1979). Indeed, political conservatives and liberals alike assumed that a primary function of the schools was to sort pupils so as to achieve a close relationship between economic needs and the supply of educated workers (Husen,1979; Sorokin,1959); the only difference was that the left thought that a high degree of intergenerational mobility could be built into a meritocratic system while the right did not think so or did not care one way or the other.

The validity of meritocratic systems is widely accepted; as noted earlier, many believe that such systems are necessary elements of any so-called advanced society, a seemingly inevitable natural law (Bell, 1973). But there are at least four major problems with arguments supporting meritocracy. First, they assume the validity of the academic criteria used to assign pupils to "elite" and "not so elite" status. Virtually everywhere such separation is done, however, the bases for judgment are tests and other assessment devices that reward social and economic status or rote learning and memorization. Certainly, these are not the characteristics that should be rewarded by a vital, growing society or that are most needed in the post-industrial world. Second, meritocratic selection criteria reflect a static view of intelligence that allows judgments to be made about pupils at a very young age --- the assumption is that they can be divided into bright, average, or stupid categories and that their intellectual capacities will not change over time, no matter how they might be stimulated by the educational process. Such viewpoints are in sharp conflict with the recent work of psychologists like Sternberg and Gardner (Sternberg,1983; Gardner,1985). Third, a meritocratic system assumes that real equality of opportunity does in fact exist. The results produced by the various screening and selecting devices in current use, however, suggest strongly (to distort Orwell only slightly) that those who are more equal than others have consistently taken advantage of the

situation to maintain their status, or more precisely, that of their offspring. As one observer put it "...the notion that social classes will sort themselves out according to inborn capacity between generations is not supported by particularly convincing evidence. One finds in widely different social orders that those who 'made it' to advanced positions (not least by means of advanced education) tend to pass on their privileges to the next generation" (Husen, 1979, p. 206). Finally, a meritocracy assumes that demonstrable economic benefits exist in the system and that modern economies are destined to be led by a relatively small number of people. This point of view ignores a growing body of research that concludes exactly the opposite --- that there are greater economic benefits from a democratization of content and access than there are from restricting access to a few. (Space prohibits a full review of this point of view here; a good statement is in the article by Ransom, 1988.)

The admonition that students acquire the skills of critical thought and a global perspective are, of course, not new. While they have been widely advocated by educational theorists and planners, those skills have been achieved only partially and then usually by elite populations. In terms of the big changes outlined earlier, they have become monumentally more important than ever before. People must acquire such skills in order to function as full citizen members of society. More important, the development of an economy that transcends national borders raises important questions of how the people of the world can relate to and be protected from the huge super-national economic organizations that no longer can be assumed to be under the control of known political entities; the only protection, it seems, involves access to and the ability to analyze large quantities of information.

This situation creates at least three imperatives for teacher educators world-wide. First, we must make concerted efforts to recruit into our own programs prospective teachers who themselves demonstrate the abilities described earlier. There is no place on earth where teacher educators have sincerely attempted to attract into teaching large numbers of students who possess any pre-existing set of skills, let alone those of critical thought and global perspective. As a consequence, teaching is all too often regarded as a profession that requires primarily a warm body as an entry qualification. As a group we are far from powerless in finding a solution to this problem. Teacher educators exert considerable influence and often a large measure of control over entry to the profession because decisions about who gets into

teacher preparation programs usually reside with the education faculty and are often beyond interference by officials of the state.

Second, we must attempt to build an "international" environment in our colleges and departments by providing a curriculum representative of ideas and examples from a large sample of the world's knowledge, transcending ideologies, historical epochs, and national boundaries and offering a wide range of opportunities for students to travel and study abroad,

Finally, we must do what needs to be done to convince our students that a wise educational policy is one that supports the concept of educational equity and recognizes the crucial need to educate all pupils in the skills that are most important for productive life in the information age. The costs of continuing to create elites deliberately and to assign most of our pupils to oblivion by narrowing the access routes to appropriate education are staggering, too great for the next generation to be asked to bear.

In summary, then, education has always been the topic of considerable comment and criticism, but today the cacophony of sound has achieved an unprecedented decibel level. While much criticism of schools is misdirected, educational systems throughout the world have not really attempted to make the substantial changes demanded by today's global society. The needed changes involve issues of both content and policy --- content must be revamped to emphasize knowledge most relevant to the present age and policies must be instituted that allow all pupils to get the best education possible. The simple facts are that information has become society's key resource and people who have access to it will be powerful. While many hands are needed in this effort, it is my firm belief that teacher educators can and should play important roles in making both excellence and equity universal goals for the world's educational systems.

References

Becker, J. M. (ed.) (1979). Schooling for a Global Age. New York: McGraw-Hill.

Bell, D. (1972). On Meritocracy and Equality. The Public Interest. (Fall): 229-68.

Bell D. (1973). Coming of Post-Industrial Society:A Venture in Social Forecasting. New York: Basic Books.

Boulding, E. (1988). Building a Global Civic Culture: Education for an Interdependent World. New York: Teachers College Press.

Cleveland, H. (1985). The Knowledge Executive: Leadership in an Information Society. New York: E.P. Dutton.

Cremin, L. A. (1989). Popular Education and its Discontents. New York: Harper & Row.

Drucker, P. (1989). The New Realities. New York: Harper and Row.

Gardner, H. (1985). Frames of Mind: The Theory of Multiple Intelligences. New York: Basic Books

Hanvey, R. (1976). An Attainable Global Perspective. Denver, CO: Center for Teaching International Relations.

Husen, T. (1979). The School in Question: A Comparative Study of the School and its Future in Western Society. New York: The Oxford University Press.

National Commission on Excellence in Education. (1983). A Nation at Risk: The Imperative for Educational Reform. Washington D. C.; U. S. Government Printing Office.

Organisation for Economic Cooperation and Development. (1985). Education in Modern Society. Paris: OECD.

Ransom, B. (1988). Education for Modernization: Meritocratic Myths in China, Mexico, The United States, and Japan. Journal of Economic Issues, Volume 22, Number 3, 747-762.

Reich, R. B. (1992). The Work of Nations. New York: Random House, Vintage Books.

Sorokin P. (1959). Social and Cultural Mobility. Glencoe,IL: Free Press.

Sternberg, R. J. (1983). How Can We Teach Intelligence? Philadelphia: Research for Better Schools.

Tye, K. (ed) (1990). Global Education: From Thought to Action. Alexandria, VA: The Association for Supervision and Curriculum Development.

Voneche, J. (1979). The School and the Reduction of Inequality. Oxford Review of Education. Volume 5 Number 3, 263-267.